

Abstract of the Disclosure

A thermally-assisted perpendicular magnetic recording head includes a write pole tip for generating a magnetic write field in the perpendicular magnetic recording layer, a magnetic shield that confines the write field essentially to the data track to be recorded, an electrically resistive heater for heating the recording layer in the presence of the write field, and a return pole. The write pole tip width essentially defines data track width and is substantially surrounded by the magnetic shield. The shield may include side shields with ends located on opposite sides of the write pole tip and a trailing shield having an end spaced from the write pole tip. The resistive heater is wider than the data track and heats both the data track and adjacent tracks, but thermally-assisted magnetic recording occurs only in the data track because the confined magnetic field in the adjacent tracks is less than the required write field.